5 FAH-2 H-100
DEPARTMENT OF STATE TELECOMMUNICATIONS

5 FAH-2 H-110
INTRODUCTION

(TL:TEL-1; 07-01-1998)

5 FAH-2 H-111 PURPOSE

(TL:TEL-1; 07-01-1998)
(Uniform State/USAID/USIA)

The Telecommunications Handbook provides official guidance and generic telecommunications procedures for IRM personnel at Information Programs Centers abroad and domestic transmission facilities. These basic management procedures are formulated to achieve overall consistency in telecommunications operations and circuit management among transmission facilities in the Department's worldwide network.

5 FAH-2 H-112 SCOPE AND AUTHORITY

(TL:TEL-1; 07-01-1998)
(Uniform State/USAID/USIA)

a. The procedures and guidelines provided here implement telecommunications policies contained in 5 FAM 500 and supplemental regulations contained in Allied Communications Publications and Joint Army, Navy, Air Force Publications.

b. The *Telecommunications Handbook* replaces The *Telegraphic Communications Handbook, Part I and Part II*. The scope of this Handbook encompasses:

(1) all phases of the telegraphic process, from the outgoing telegram to transmission format through telegram delivery and storage;

(2) management procedures for overseas data, telephone and radio networks; and

(3) management procedures to ensure the operational readiness of telecommunications equipment at posts abroad.

5 FAH-2 H-113 REFERENCES

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The following references were used in the preparation of this Handbook. If additional information is needed, please refer to these sources.

- 5 FAM *Information Management*
- 5 FAH-1 *Correspondence Handbook*
- 5 FAH-3 *TAGS/Terms Handbook*
- 5 FAH-4 *Records Management Handbook*
- 5 FAH-6 *Communications Security Handbook*
- 5 FAH-10 *Mail and Pouch Handbook*
- Allied Communications Publication (ACP) 131(D) Communications Instructions - Operating Signals
- ACP-117A, ACP-117B Allied Routing Indicator Book
- ACP-127 Communications Instructions - Tape Relay Procedures
- Joint Army, Navy, Air Force Publications (JANAPs)
- Department of State Teletypewriter Routing Guide (DOSPUB)
- DTS Installation Standards
- DTS Technical Requisition Manual
- DTS Reporting Guide
- 12 FAM 500 *Information Security*
- 12 FAM 600 *Information Security Technology*
- 12 FAH-6 *OSPB Security Standards and Policy Handbook*
- Telephone Security Group publications
- Regional Information Management Center (RIMC) HF Network Operating Instructions
- Department Unclassified Electrical/Electronic Security Standards
- Worldwide Property Accountability System (WPAS) Post Standard Operating Procedures
- 6 FAM 200 *Supplies, Equipment and Non-Personal Services*
- 4 FAM 033.9 *Property Management Records, Data and Systems*
- Post Standard Operating Procedures. (See 5 FAH-2 H-113 Exhibit H-113 for list of topics that should be covered in post's SOP.)

5 FAH-2 H-114 DEFINITIONS

(TL:TEL-1; 07-01-1998)
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Acknowledgment—A message from a telegraphic addressee informing the originator that the communication has been received.

ACP—Access Communications Processor. A Telematics® packet assembler/disassembler (PAD) and concentrator that converts data packets into x.25 packet switch protocol for synchronous communications. Used in Diplomatic Telecommunications Service black packet switched networks.

ACP—Allied Communications Publication. ACPs regulate the use of allied government transmission facilities.

ACT—Alternate Communications Terminal. A TEMPEST or zoned personal computer utilizing the Microsoft Windows New Technology (NT) platform to provide classified or unclassified record traffic to posts without an Information Management Specialist position.

Action addressee—The post to which a telegram is directed by the originator for action.

Address designator—A plain language name (full or abbreviated), routing indicator, call sign, or address group of a unit, activity, or other authority used to indicate the originator and/or addressee(s); used in ACP and JANAP format.

Addressee—The post, activity, or individual to whom a message is directed by the originator. Addressees are indicated as either action or information.

AIG—Address Indicating Group. An address group that represents a specific set of action and/or information addressees; the identity of the originator may also be included.

ALMA—A Logical Modernization Approach. An infrastructure of computer hardware and software based on an industry standard architecture using commercial-off-the-shelf products. ALMA was designed to provide desktop services to Department employees worldwide and provides connectivity to Open Net, shared access to information stored on CD-ROM, and other Department applications.

Also pass—A telegraphic handling instruction that indicates to a relay post that it is an addressee and has relay responsibilities.

Architecture—In the context of data processing, the structure and relationships among the components of a computer program or system. Architecture may include the interface with the program or system's operational environment.

Attention indicator—A telegraphic handling instruction that appears after a caption and indicates who at the addressee post should receive a telegram.

Black packet—A group of data and control characters in a specified format, which is transmitted and switched as a composite whole. "Black" means the packet is encrypted by the user at the post and distant ends, thus preventing intermediate relay points read access to the information in the packet.

Body—The substantive part of a telegram containing the developed message or report the originator desires to communicate.

Broadband—A communication channel having a bandwidth greater than a voice-grade channel, and therefore capable of higher speed data transmission.

BT—Break. A procedure sign in ACP formatted telegrams that separates the heading from the text and the text from the end of the telegram.

CAA—Controlled Access Area.

Call Sign—Any combination of characters that identify a communications facility, command, authority, activity, or unit, used primarily for establishing and maintaining communication.

Caption—A handling instruction that is listed before any other handling instructions in the telegram text, as defined by ACP 127. A caption denotes the special nature of or limits the distribution of a telegram.

Carrier—The company or facility that transmits data signals. Also, a wave suitable for modulation by an information-bearing signal to be transmitted over a communication system.

CCITT—International Telegraph and Telephone Consultative Committee. Chartered by the International Telecommunications Union (ITU) to study and issue recommendations on technical, operating, and tariff questions relating to telegraphy and telephony.

Channel—An electrical path over which transmission can be made from one station to another.

Channel check—A service telegram exchanged between two transmission facilities to ensure channel continuity.

CIHS—Classified Information Handling System. A computer processor dedicated to archival, storage and retrieval of classified telegrams. Permits users at a single location to retrieve stored telegrams from a central storage device. Connects to TERP V via PC-TWI (personal computer telegraphic Wang interface).

Circuit—An electronic path between two or more points capable of providing a number of channels.

C-LAN—Classified Local Area Network. An assembly of member terminals in a Department facility or mission that can establish and maintain a secure communications link between any two of the member terminals. Basic C-LAN functions include: telegram transmission and receipt at the desktop; telegram retrieval from storage databases; e-mail exchange with other C-LAN subscribers at post; and word processing.

CLOUT—Common LAN Outbound Telegram Release. A software package that makes possible the electronic release of telegrams from the desktop using existing e-mail systems and network infrastructure.

CSN—Channel Sequence Number. A combination of letters and figures identifying a station, a channel and a transmission.

Collective address—An address group that represents two or more posts, commands, authorities, activities, units, or combination thereof, including the commander of the organization or group and all subordinate commanders therein.

Concentrator—In data transmission, a functional unit that permits a common path to handle more data sources than there are channels currently available within the path. Used in black packet switching to provide communication capability between many low-speed, usually asynchronous channels and one or more high speed, usually synchronous channels. Different speeds, codes and protocols can be accommodated on the low speed side.

Critic—A handling symbol for specially formatted telegrams conveying national security information that must be delivered to the highest levels of the U.S. Government as fast as possible.

CTS—Computerized Telephone System. A generic term used to describe any telephone system that uses centralized stored program computer technology to provide switched telephone networking features and services. CTS is referred to commercially as private branch exchange (PBX), private automatic branch exchange (PABX) or electronic private automatic branch exchange (EPABX).

Date-time group—Date and time assigned to a telegram by the telegraphic processor upon receipt by the telegraphic processor; the official date of the telegram.

DISA—Direct Inward System Access. A programming feature of a telephone PBX allowing the PBX configuration to be changed by a remote terminal or user.

Drafting office(r)—The office(r) that produces an outgoing telegram.

DSN—Defense Switched Network. A telecommunications network of interconnected PBXs administered by the Department of Defense for use by elements of the armed forces, domestically and abroad.

DTS Network—Diplomatic Telecommunications Service Network**.** A system of interconnected secure data and voice circuits supporting foreign affairs agency headquarters in Washington and U.S. diplomatic missions abroad. All Department of State telecommunications circuits are integrated into the DTS network.

EOM—End-of-message indicator. The four Ns (NNNN) appearing at the end of a telegraphic transmission indicating the end of the transmission.

Flash—The highest precedence designation, reserved for the most urgent telegrams containing information vitally affecting the conduct of foreign relations and requiring instant attention by the addressee, regardless of the time of day or night.

Format line—A single line of alpha-numeric characters that performs a transmission function, or functions, in an ACP-formatted telegram.

FTS2000—Federal Telecommunications System. A dedicated telephone network used exclusively by U.S. Government agencies for official domestic calls. FTS2000 is jointly owned and operated by AT&T and Sprint under GSA contract authority.

Garble—An error in transmission, reception, or encryption which renders a message or portion thereof incorrect or indecipherable.

GETS—Government Emergency Telecommunications Service. A telephone network developed under White House tasking to provide enhanced caller capabilities for National Security/Emergency Preparedness (NS/EP) calls. GETS is administered by the Defense Information Systems Agency with service accorded to National Security Council member agencies.

GMT—Greenwich Mean Time. Mean solar time for the meridian at Greenwich, England, is used as a basis for calculating time for most of the world. GMT or Zulu is the time used in telegraphic processor clocks.

Handling instructions—A generic term for the acronyms and phrases preceding the body of a telegram to define dissemination at addressee posts. Handling instructions are categorized as captions, attention indicators or passing instructions.

Handling symbol—In the context of telegraphic processing, any one of three words that defines a unique telegraphic handling procedure, CRITIC, NIACT or POUCH.

Heading—The part of a telegram that precedes the text and controls the transmission of telegrams between the originator and addressee posts.

Immediate—A precedence designator restricted to telegrams of such urgency as to require immediate attention or action during normal duty hours. Immediate telegrams are not urgent enough to require attention after regular duty hours, holidays or weekends.

Inform Consuls—A passing instruction used in collective address telegrams to request posts with regional responsibilities to forward the telegram or the information therein to those posts they protect.

Information addressee—The post, activity or individual to whom a telegram is directed by the originator for information.

IPC—Information Programs Center. The transmission facility at a Department mission responsible for secure command and control messaging systems and other assigned telecommunications duties.

ISC—Information Systems Center. The office responsible for unclassified computer systems or networks at posts abroad.

ISDN—Integrated Services Digital Network. A telecommunications standard that can integrate data, voice and video signals over a digital telephone line.

Isolator—A device that inserts a break in the normal hard-wire conduction path that exists between a telephone and its telecommunications medium. When a telephone is in use, an isolator provides a temporary communications channel across that break without establishing an end-to-end metallic connection.

IVG—International Voice Gateway. An international telephone network administered by DTS-PO directly linking Washington foreign affairs agency headquarters with field offices abroad via dedicated voice circuitry.

JANAP—Joint Army, Navy, Air Force Publication. Provides official information and instructions for specialized phases of communications in a U.S. Government facility.

Julian date—The number that corresponds to the chronological day of the year. The first day of the year is 001, the second 002, and the last day of the year is 365 (366 in Leap Years). Appears on ACP Format Line 3.

Leased line—A direct electrical connection between two points leased from a commercial company to provide exclusive use and operation by the lessee.

MA/WAN—Metropolitan Area/Wide Area Network. A Department of State voice network connecting the International Voice Gateway central switch at Beltsville to facilities at Main State, Washington area State annexes, and other facilities in Portsmouth, NH; Charleston, SC; and USUN New York.

MCI ISVS—International Switched Voice Service. A tariffed service to assess telephone charges for long distance international calls. The Department uses MCI ISVS long distance service and callers dial a special MCI access number to access MCI trunks.

MCN—Message Continuity Number. A number assigned by the Department's telegraphic processors to track the continuity of telegraphic correspondence between originating and receiving stations. MCNs recycle from 0001 to 9999. The length of time it takes for a series to recycle depends on the telegraphic traffic volume between two posts.

Minimize—A telegraphic communications term signifying that non-urgent, nonessential message traffic must be curtailed or reduced to a post that does not possess the means to process a normal telegraphic workload.

MRN—Message Reference Number. The official identification number for telegrams originated at Department transmission facilities. The MRN consists of the geographic location indicator and a sequential number that begins with the Arabic numeral 1 on January 1 each year and increases by one with each telegram transmitted by the post through December 31. The MRN for telegrams from years prior to the current year begins with the last two digits of the year.

Multiplexer (MUX)—A data communications device that combines inputs from two or more terminals, computer ports or other multiplexers, and transmits the combined data stream over a single high-speed channel. At the receiving end the data stream is demultiplexed, either by another multiplexer or by computer software programs.

NCS—National Communications System. Interagency body of 23 member agencies that organizes the federal telecommunications resources needed to support the U.S. in times of national emergency and develops federal standards to ensure interoperability of U.S. Government telecommunications networks.

Niact (night action)—A handling symbol used in conjunction with the Immediate precedence designator to indicate a telegram requires immediate attention or action by the addressee regardless of the time of day or night.

NOTAL—Not to all. A term used in a multiple-address telegram, located on the reference line, placed after the referenced MRN to indicate the reference was not sent to all addressees of the telegram.

Network—An assembly of member terminals, control facilities and intercommunication facilities that can establish and maintain a communications link between any two of the member terminals.

Off-line—A method of data telecommunication in which encryption/ transmission or receipt/decryption are performed manually in separate steps rather than automatically and simultaneously. Also refers to equipment not connected to a central system or a condition in which a user, terminal or other device is not actively transmitting data.

On-line—A method of transmission by which signals from telecommunications equipment are passed directly to a channel/circuit to automatically operate compatible equipment at one or more distant stations.

Open number—A channel sequence number for which a transmission bearing a corresponding number has not been received.

Operating signal (opsign)—A three-letter code conveying orders, instructions, requests, reports and information to facilitate communications via telegraphic or radio systems.

Operating system—Software that controls the execution of computer programs and that provides any of the following services: scheduling, debugging, input/output control, accounting, compilation, storage assignment or data management.

Originator—The post or activity that sends a message.

Packet switched network—A data network that maximizes the use of signal paths by apportioning virtual telecommunications channels among multiple users.

Packet switching—The process of routing and transferring data by means of individually addressed packets so that a channel is occupied only during packet transmission, and upon completion the channel is available to transfer other traffic.

Pass—In a telegram a handling instruction requiring a post with regional responsibilities to relay the telegram to other posts designated in the telegram.

PBX—Private Branch Exchange. Centralized stored program computer technology that provides switched telephone networking features and services.

PCCS—Personal Computer Communication System. A commercial-off-the-shelf (COTS) personal computer configured to provide unclassified record traffic capabilities to posts without an Information Management Specialist position.

PC-TWI—Personal Computer/Telegraphic Wang Interface. A PC configured to permit the transfer of outgoing and incoming telegrams between a Wang Alliance classified data processor and TERP V telegraphic processor. The PC-TWI makes it possible for a user to send and receive telegrams directly from a workstation. PC-TWI is an interface only and does not itself create or store telegrams.

Phonetic alphabet—A list of standard words used to identify letters of the alphabet in communications.

Pilot—Instructions appearing in ACP Format Line 1 of a telegram relating to the transmission or handling of that message.

PINS—Post Integrated Network System. A telegraphic distribution system utilizing commercial-off-the-shelf (COTS) products and Transmission Control Protocol/Internet Protocol (TCP/IP) to integrate various data processors with certain versions of TERP V, so that on-site and off-site users at an overseas post can send and receive telegrams from the desktop.

Plain language (plain text)—The intelligible text underlying encrypted text.

Platform—The foundation technology of a computer system. Typically, a specific combination of hardware and operating system.

Pouch—Used generally to describe the privileged mail facilities of the Department of State; specifically the sealed bag in which mail is carried. Also, a telegraphic handling symbol indicating those posts that will receive copies of a telegram in the diplomatic pouch, instead of an electronic transmission.

Preamble—In ACP telegrams one of the components contained in the heading whose elements include the precedence, date-time group and message instructions.

Precedence—A designation assigned to a telegram by the drafter to indicate to communications personnel the relative order and degree of urgency required in processing and dispatching a telegram, and to the addressee the order in which the message is to be noted.

Precedence procedure sign (precedence prosign)—Single or double-letter combination used in the heading of an ACP-127 telegram to indicate the precedence assigned to a message.

Z-Flash
O-Immediate or Niact Immediate
P-Priority
R-Routine

Priority—A precedence designator used for messages requiring rapid action and prompt delivery and which must be delivered before routine traffic.

Procedure sign (prosign)—In Allied Communications Publication (ACP) telegraphic format one or more letters, characters or combination thereof, used to facilitate communication by conveying in a condensed form frequently used orders, instructions, requests, and information related to telegraphic communications.

Protect—The responsibility of a regional post to safeguard message traffic of posts within its jurisdiction and to insure that those posts receive message traffic.

PRS—Pre-wired Radio System. High frequency radio configuration of transmitting, receiving, modulating, demodulating, selective calling, patching and ancillary equipment, used as a primary or alternate telegraphic circuit. PRS stations are user-defined, full duplex, independent side band (ISB).

PTT—Post Telephone and Telegraph. A generic term for government-operated common carriers in countries outside the U.S., e.g., General Post Office in the United Kingdom, Bundespost in Germany and Nippon Telephone and Telegraph Public Corporation in Japan.

Q signal—An operating signal used in U.S. and allied communications procedures composed of a three-letter combination beginning with the letter Q.

Refile—The reprocessing of a message into appropriate form for transfer to another system of communication, e.g., from U.S. Government to commercial facility.

RI—Routing Indicator. A group of letters identifying a station within a telegraphic network to facilitate routing of traffic.

Routine—A precedence designator used for all telegrams not sufficiently urgent to justify a higher precedence designator.

Routing line—ACP Format Line 2 that contains the routing indicator(s) of the station(s) to which a transmission is routed.

Routing line segregation—Altering ACP Format Line 2 as the message passes through relay stations, so that only those routing indicators pertinent to the onward transmission are present in FL-2.

Section telegram—A Department telegram exceeding 110 lines of type, from heading through end of message functions, that is broken into sections to facilitate transmission.

Security warning—An ACP operating signal appearing on Format Line 4 used to prevent the transmission of classified telegrams in plain language over nonsecure circuits/channels.

Signature—Last name of the officer-in-charge of the post or activity where a telegram originates. Not used on Department of Defense-originated messages.

SOM—Start of Message indicator. The letters ZCZC on ACP Format Line 1 indicating the start of a telegram. Activates automatic switching equipment at network control centers. Follows V, the Start of Transmission function.

SSN—Station Serial Number. A four-digit number on ACP Format Line 3 and Format Line 15 of a telegram confirming circuit synchronization and continuity during telegram transmission.

STARS—State Telecommunications Alternate Relay System. Primary relay system for all ACP-127 messages, the records traffic for the Department.

Start of transmission function—The letter V immediately preceding the SOM (ZCZC) on messages passing into or through automatic switching systems.

Station—The communications facility at a post or activity capable of transmitting and receiving telegrams.

Susdupe—Suspected duplicate. Used in service messages or in references to describe a telegram that may have been transmitted previously.

SVC—Service message. An abbreviated telegraphic exchange between communications personnel at transmission facilities and network control centers regarding telegram transmission or circuit conditions.

T1 Multiplexer—A multiplexer that receives data from 24 circuits at 64 Kbps (or from some number of lower speed circuits at an equivalent combined bit rate) and combines them according to D4 or ESF framing onto a single circuit at 1.544 Mbps.

TDM—Time Division Multiplexing. A data, voice and video communications technique that interleaves several low-speed signals into one high speed transmission.

Telecommunication—Long-distance exchange of signals, signs, text, images, sounds or intelligence of any kind, via wire, radio frequency wave, visual or other electromagnetic systems.

Telegram—In general, a written message composed in a particular format, converted by a telegraphic processor into an unmodulated electronic signal and transmitted via electronic circuitry to a receiving station. A Department telegram conveys official information about Department policy, program activities, post operation or personnel management.

Telephone—A voice terminal that, regardless of whatever other functions it performs, is a member terminal of a telephone network and accomplishes all the incoming and outgoing signaling and voice interfacing necessary for operations in that network.

TEMPEST—Nationally approved hardware that protects against the transmission of compromising emanations, that is, unintentional signals that can disclose information being processed on information processing equipment.

TERP V—Terminal Equipment Replacement Program, revision 5. The personal computer-based configuration used by the Department to process telegraphic messages sent via the Diplomatic Telecommunications Service network. TERP V uses a Banyan Intelligent Communications Adapter configured as a front end processor to interface with the DTS network, asynchronous serial devices, a UNIX-based operating system, and a customized telegraphic processing application.

Text—In ACP format the text is Format Line 12 and includes all the information between the BTs on FL-11 and FL-13, declassification instructions, TAGS, subject line, captions, attention indicators and the body of the message.

Time of transmission—Also referred to as time of file, the date and time a telegram is actually transmitted from a telegraphic processor through the telegraphic circuit. Contrast with **date-time group.**

Tracer action—Action initiated by the originator of a telegram to determine the reason for nondelivery or inordinate delay.

Traffic—All telegraphic messages transmitted and received.

Transmission format—For the purposes of this document, text that has been prepared for transmission by Department of State telegraphic processing software.

Transmission identification—The start-of-message function, start-of-message indicator and channel sequence number that identify a transmission from one station to the next in the relay route.

Transmission section—One of two or more portions of a long telegram, each of which is transmitted separately. All transmission sections in ACP format use the same date-time group; Department sections also use the same MRN.

Tributary station—A station electronically connected to a relay network, but normally having no relay responsibility.

TSG—Telephone Security Group. The primary technical and policy resource in the U.S. intelligence community for all aspects of technical surveillance countermeasures programs involving telephone systems.

Voice terminal—A generic term describing any device that, regardless of whatever other functions it performs, provides an intentional transmit and/or receive interface between a human talker/listener and an electric or electronic communications system. All voice terminals contain transducers; a microphone is necessary for transmitting; a speaker is necessary for receiving.

WITS—Washington Interagency Telecommunications Service. A network of GSA owned and operated PBXs that provide telecommunications services to U.S. Government agencies on a time and materials contract basis.

WOWI—Wang One-Way Interface. A terminal configured with software to permit the electronic transfer of outgoing unclassified telegrams from a Wang VS System to a telegraphic processor.

Z signal—An operating signal used in U.S. and allied communications procedures and composed of a three-letter combination beginning with the letter Z.

Zulu time—A procedure sign following the date-time group to indicate that the time is Greenwich mean time.

5 FAH-2 H-115 THROUGH H-119 UNASSIGNED

5 FAH-2 H-113 Exhibit H-113
STANDARD OPERATING PROCEDURES FOR COMMUNICATIONS CENTERS

(TL:TEL-1; 07-01-1998)
(Uniform State/USAID/USIA)

IRM personnel at posts and in the Department communications center should maintain Standard Operating Procedures (SOP) with detailed descriptions of site-specific procedures and activities. The SOP should include the following topics:

1. list of personnel authorized entry to the IPC at overseas posts or the domestic communications center (required by 5 FAH-6);
2. delineation of responsibilities of IPC personnel;
3. hours of operation;
4. procedures for handling CRITIC, FLASH, NIACT IMMEDIATE and IMMEDIATE telegrams;
5. after-hours operating procedures;
6. telephone numbers of key personnel to contact in case of emergency;
7. emergency destruction procedures (required by 5 FAH-6);
8. emergency power arrangements;
9. authorized classification level for secure circuits;
10. description of the telegraphic circuit, alternate-route procedures and points-of-contact for PTT technical staff (if applicable);
11. communication reports and deadlines;
12. relay procedures (if applicable at location);
13. list of telegram-authorizing officers, including initials and signatures;
14. procedures for two-person integrity cryptographic controls;
15. descriptions of telephone and radio systems;
16. equipment operating procedures; and
17. additional instructions essential to telecommunications operations.